

**COMMONWEALTH OF VIRGINIA**  
**Department of Environmental Quality**  
**Piedmont Regional Office**

**STATEMENT OF LEGAL AND FACTUAL BASIS**

Pre Con, Incorporated  
220 S. Perry Street - Petersburg, Virginia  
Permit No. PRO- 51028

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Pre Con, Incorporated has applied for a Title V Operating Permit Renewal for its 220 S. Perry Street - Petersburg facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: \_\_\_\_\_  
Jennifer Hoeffner  
(804) 527-5123

Date:

Air Permit Manager: \_\_\_\_\_  
James E. Kyle, P.E.

Date:

Regional Permit Manager: \_\_\_\_\_  
James J. Golden

Date:

## **FACILITY INFORMATION**

### Permittee

PreCon, Inc.  
P. O. Box 212  
Colonial Heights, VA 23834

### Facility

PreCon, Inc.  
220 S. Perry Street  
Petersburg, VA 23804

AFS ID No.: 51- 730-0080

## **SOURCE DESCRIPTION**

SIC Code: 2295 – Coated Fabrics, Not Rubberized

Establishments primarily engaged in manufacturing coated, impregnated, or laminated textiles, and in the special finishing of textiles, such as varnishing and waxing. Establishments primarily engaged in rubberizing purchased fabrics are classified in Industry 3069, and those engaged in dyeing and finishing textiles are classified in Industry Group 226 or Industry 2231.

The source takes polyolefin fiber in the form of polyethylene and coats the fiber web using a binder resin for the purpose of manufacturing body armor. The facility also maintains coating mix preparation equipment that allows them to formulate the various coatings for the fiber.

The facility is a Title V major source of Methylene Chloride (HAP). This source is located in an attainment area for all pollutants. The facility was previously permitted under Minor NSR Permits issued on April 8, 2004 and August 5, 1996.

## **COMPLIANCE STATUS**

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility was issued a Notice of Violation on August 12, 2003 alleging noncompliance with construction of a twin screw fiber extruder before the Department completed the permitting determination and improper submittal of semi-annual reports. As of January 20, 2004 the above compliance issues have been resolved.

## EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity *	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
<b>Process A - Fiber Coater Line A</b>							
MTO-30	107	30 inch research and development fiber coater, proprietary design	1800 Ft fiber/hr inlet	–	–	–	August 5, 1996
<b>Process B - Coating Line B</b>							
PC-30	78	30 inch fiber tape research and development coating line, proprietary design	190 lb/hr fiber and resin inlet	Catalytic Oxidizer, Dec E Tech "Eagle" Model #CO-3000 HT, 3/96	PC-30 CatOx/Stack No. 78	VOC	April 8, 2004
<b>Process C – Coating Line C</b>							
PC-27	76	27 inch fiber tape coating line, proprietary design	60 lbs MeCl/hr coating feed inlet	Two activated carbon adsorbers, Barnebey & Sutcliffe	PC-27 ACA	Methylene Chloride	April 8, 2004
<b>Process D – Polyolefin fiber process line</b>							
XT-2	ST-XT2	Twin screw fiber extruder, proprietary design	120 lbs gel fiber/hr fiber feed inlet	–	–	–	April 8, 2004
<b>Process E– Fiber tape line</b>							
PC-63	ST-PC63	Fiber tape line, proprietary design	186.2 lb/hr	Thermal Oxidizer Unit, Glenro 6000	PC-63, TOX-1	VOC & Methyl ethyl ketone	April 8, 2004
<b>Process F – Washer/Dryer line</b>							
WA-1		Polyethylene fiber washer/dryer unit, proprietary design	<551 tons/yr	Thermal Oxidizer Unit Condenser & Adsorber	WA-1-TOX	VOC	April 8, 2004

## EMISSIONS INVENTORY

A copy of the 2002 annual emission update is attached. Emissions are summarized in the following tables.

2002 Actual Emissions

	2002 Criteria Pollutant Emission in Tons/Year				
Emission Unit	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>	NO <sub>x</sub>
PC-27	-	-	-	-	-
MTO-30	-	-	-	-	-
PC-30	7.23	-	-	-	-
Total	7.23	-	-	-	-

2002 Actual Facility Hazardous Air Pollutant Emissions

Pollutant	2002 Hazardous Air Pollutant Emission in Tons/Yr
Methyl Ethyl Ketone	0.43

## EMISSION UNIT APPLICABLE REQUIREMENTS -

The conditions that are listed below are referenced from the NSR permit dated August 5, 1996, which was issued to this source for the coating equipment designated as MTO-30.

### Limitations

1. The annual throughput of Volatile Organic Compounds on the MTO-30 Coater shall not exceed 24.5 tons, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-170-160 and Condition 4 of 8/5/96 Permit)
2. Regardless of the emissions limits described in Condition 5 of this permit, the emissions from the operation of the MTO-30 Coater shall not exceed the limits specified below:  
Volatile Organic Compounds                      22.8 lbs/hr                      24.5 tons/yr

- (9 VAC 5-50-260 and Condition 6 of 8/5/96 Permit)
3. Visible emissions from the facility shall not exceed 20 percent opacity, except for one six-minute period in any one hour of not more than 30% opacity, as determined by EPA Method 9 (reference: 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.  
(9 VAC 5-170-160 and Condition 7 of 8/5/96 Permit)
  4. Unless otherwise specified in this permit, the permittee shall operate the affected facilities in compliance with all applicable New Source Performance Standards, Subpart VVV, Standards of Performance for Polymeric Coating of Webbed Substrates.  
(9 VAC 5-50-260, 9 VAC 5-50-410, and Condition 8 of 8/5/96 Permit)

### **Recordkeeping**

1. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Regional Office. These records shall include, but are not limited to:
  - a. The monthly throughput of Volatile Organic Compounds, including exempt VOC's, for the MTO-30 Coating line. Individual constituent usages shall be recorded, in addition to total VOC usage.
  - b. The product rate, on a research and development trial basis, in linear feet of fiber product coated and the combined fiber/resin rate also on a research and development trial basis.
  - c. The results of all Method 24 analysis performed on any solvent based resin material or its constituents.

These records shall be available for inspection by the Department and shall be current for the most recent five (5) years.

(9 VAC 5-50-50 and Condition 10 of 8/5/96 Permit)

The conditions that are listed below are referenced from the NSR permit dated April 8, 2004, which was issued to this source for the coating equipment designated as PC-27, PC-30, PC-63, WA-1, and XT-2.

### **Limitations**

1. Methylene chloride emissions from the PC-27 Coater shall be controlled by two activated carbon adsorbers when operating at the 40 feet per minute rated capacity. The activated carbon adsorbers shall be provided with adequate access for inspection.  
(9 VAC 5-50-260 and Condition 3 of 4/08/04 Permit)
2. VOC emissions from the PC-30 coating mix preparation equipment shall be controlled by installing, operating, and maintaining a cover on each piece of affected coating mix

preparation equipment and venting VOC emissions to the catalytic oxidizer, which shall be at correct operating temperature to ensure effective VOC destruction during coating mix preparation of VOC-containing coatings. The catalytic oxidizer shall be provided with adequate access for inspection.

(9 VAC 5-50-260, 9 VAC 5-50-410, and Condition 4 of 4/08/04 Permit)

3. VOC emissions from the PC-30 Coater shall be controlled by a catalytic oxidizer, which shall be at correct operating temperature to ensure VOC destruction during coating operations using VOC-containing coatings. The catalytic oxidizer shall be provided with adequate access for inspection.  
(9 VAC 5-50-260 and Condition 5 of 4/08/04 Permit)
4. Particulate emissions from the spray nozzle on the PC-30 Coater shall be controlled by a multi-stage filter. The multi-stage filter shall be provided with adequate access for inspection.  
(9 VAC 5-50-260 and Condition 6 of 4/08/04 Permit)
5. VOC emissions from the PC-63 coating mix preparation equipment shall be controlled by installing, operating, and maintaining a cover on each piece of affected coating mix preparation equipment and venting VOC emissions to the thermal oxidation unit, which shall be at correct operating temperature to ensure effective VOC destruction during coating mix preparation of VOC-containing coatings. The thermal oxidation unit shall be provided with adequate access for inspection.  
(9 VAC 5-50-260, 9 VAC 5-50-20E, and Condition 7 of 4/08/04 Permit)
6. VOC emissions from the PC-63 Coater shall be controlled by a thermal oxidizer unit, which shall be at correct operating temperature to ensure VOC destruction during coating operations using VOC-containing coatings. The thermal oxidation unit shall be provided with adequate access for inspection.  
(9 VAC 5-50-260 and Condition 8 of 4/08/04 Permit)
7. Flammable solvent emissions from the polyethylene fiber washer/dryer process shall be controlled by a thermal oxidizing unit (TOU) equipped with interlock. The TOU shall be provided with adequate access for inspection.  
(9 VAC 5-50-260 and Condition 9 of 4/08/04 Permit)
8. Chlorinated Solvent emissions from the polyethylene fiber washer/dryer process shall be controlled by a condenser and carbon bed adsorber. The adsorber shall be provided with adequate access for inspection.  
(9 VAC 5-50-260 and Condition 10 of 4/08/04 Permit)

9. The catalytic oxidizer and enclosure shall achieve an overall control efficiency for VOC of no less than 95 percent, on a mass basis.  
(9 VAC 5-50-260, 9 VAC 5-50-410, and Condition 11 of 4/08/04 Permit)
10. The activated carbon adsorbers and enclosure shall achieve an overall control efficiency for methylene chloride of no less than 95 percent when the PC-27 Coater is operating at the 40 foot per minute rated capacity.  
(9 VAC 5-50-260 and Condition 12 of 4/08/04 Permit)
11. The activated carbon adsorbers shall control the exhaust concentration of methylene chloride to no more than 100 ppm from the PC-27 Coater.  
(9 VAC 5-50-260 and Condition 13 of 4/08/04 Permit)
12. The thermal oxidation unit and enclosure, which controls emissions from the PC-63 coating line, shall achieve an overall control efficiency for VOC of no less than 98 percent, on a mass basis.  
(9 VAC 5-50-260 and Condition 14 of 4/08/04 Permit)
13. The catalytic oxidizer shall maintain an inlet temperature of 385 degrees C. (725 degrees F.)  $\pm$ 28 degrees C. (50 degrees F.) and a residence time of at least 0.26 seconds.  
(9 VAC 5-50-260 and Condition 15 of 4/08/04 Permit)
14. The thermal oxidizer unit, which controls emissions from the PC-63 coating line, shall maintain a minimum combustion zone temperature of 760 degrees C. (1400 degrees F.) and a residence time of at least 1 second.  
(9 VAC 5-50-260 and Condition 16 of 4/08/04 Permit)
15. The carbon bed adsorbers for the polyethylene fiber washing/drying process shall achieve a combined control efficiency for VOC of no less than 95 percent.  
(9 VAC 5-50-260 and Condition 17 of 4/08/04 Permit)
16. The thermal oxidizer unit for the polyethylene fiber washing/drying process shall achieve a control efficiency for VOC of no less than 95 percent.  
(9 VAC 5-50-260 and Condition 18 of 4/08/04 Permit)
17. The annual throughput of Volatile Organic Compounds on the PC-30 Coater shall not exceed 460 tons, calculated monthly as the sum of each consecutive 12 month period.  
(9 VAC 5-80-1180 and Condition 28 of 4/08/04 Permit)
18. The annual throughput of total VOC (including methyl ethyl ketone) on PC-63 Coater shall not exceed 1400 tons per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-1180 and Condition 30 of 4/08/04 Permit)

19. The annual throughput of fiber to the polyethylene fiber washer/dryer unit shall not exceed 36 tons per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-1180 and Condition 31 of 4/08/04 Permit)
20. The PC-27 Coater shall only operate at the maximum rated capacity of 40 feet per minute when the methylene chloride emissions are controlled with the activated carbon adsorbers. At all other times, the PC-27 Coater is limited to the operating capacity of 31.6 feet per minute.  
(9 VAC 5-80-110 and Condition 32 of 4/08/04 Permit)
21. The twin screw fiber extruder (XT-2) shall only operate a maximum of 2000 hours per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 and Condition 33 of 4/08/04 Permit)
22. The polyethylene fiber washer/dryer process shall operate a maximum of 6000 hours per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 and Condition 34 of 4/08/04 Permit)
23. The approved fuel for the thermal oxidizer unit, which controls emissions from the polyethylene fiber washer/dryer process, is natural gas. A change in the fuel may require a permit to modify and operate.  
(9 VAC 5-80-110 and Condition 35 of 4/08/04 Permit)
24. The thermal oxidizer unit, which controls emissions from the polyethylene fiber washer/dryer process, shall consume no more than,  $27.0 \times 10^6$  cubic feet of natural gas per year, calculated monthly as the sum of each consecutive 12 month period.  
  
Minimum heat content: 1020 Btu/cf HHV.  
(9 VAC 5-80-110 and Condition 36 of 4/08/04 Permit)
25. Visible emissions from the catalytic oxidizer, which controls emissions from the PC-30 coating line, shall not exceed 5 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.  
(9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-410, Condition 38 of 4/08/04 Permit)
26. Visible emissions from the twin screw fiber extruder (XT-2) shall not exceed 5 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.  
(9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-410, Condition 39 of 4/08/04 Permit)
27. Visible emissions from the thermal oxidation unit, which controls emissions from the PC-63 coating line, shall not exceed 5 percent opacity as determined by EPA Method 9 (reference



40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.

(9 VAC 5-50-80, 9 VAC 5-50-260, 9 VAC 5-50-410, and Condition 40 of 4/08/04 Permit)

28. Emissions from the operation of the facility shall not exceed the limits specified below:

**PC-30 Coater:**

Volatile Organic Compounds	5.3 lbs/hr	23.0 tons/yr
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**Twin screw fiber extruder (XT-2):**

PM & PM <sub>10</sub>	7.64 lbs/hr	7.64 tons/yr
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**Polyethylene fiber washer/dryer process**

Volatile Organic Compounds	9.8 lbs/hr	29.4 tons/yr
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PM & PM <sub>10</sub>	0.7 lbs/hr	2.1 tons/yr
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CO	0.4 lbs/hr	1.2 tons/yr
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NO <sub>x</sub>	0.5 lbs/hr	1.4 tons/yr
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**PC-63 Coater:**

Volatile Organic Compounds	6.4 lbs/hr	28.0 tons/yr
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(9 VAC 5-50-260 and Condition 37 of 4/08/04 Permit)

**Monitoring**

1. The activated carbon adsorbers shall be equipped with devices to continuously measure adsorber gas outlet concentration of methylene chloride. If levels of methylene chloride exceed 100 ppm, the device shall trigger an audible and visual alarm that notifies the operators to decrease the PC-27 Coater's capacity to 31.6 feet per minute until the activated carbon is replaced with new carbon. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the activated carbon adsorbers are operating.  
(9 VAC 5-80-1180, 9 VAC 5-50-20 C, 9 VAC 5-50-260, and Condition 19 of 4/08/04 Permit)
2. The catalytic oxidizer, which controls emissions from the PC-30 coating line, shall be equipped with devices to continuously measure and record the gas temperature both immediately upstream and downstream of the catalyst bed. The temperature monitoring device shall have an accuracy within  $\pm 1$  percent of the temperature being measured in

- degrees Celsius (°C). Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the catalytic oxidizer is operating.  
(9 VAC 5-80-1180, 9 VAC 5-50-20 C, 9 VAC 5-50-410, 9 VAC 5-50-260, and Condition 20 of 4/08/04 Permit)
3. The thermal oxidation unit, which controls emissions from the PC-63 coating line, shall be equipped with devices to continuously measure and record the combustion zone temperature. The temperature monitoring device shall have an accuracy within  $\pm 1$  percent of the temperature being measured in degrees Celsius (°C). Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the thermal oxidation unit is operating.  
(9 VAC 5-80-1180, 9 VAC 5-50-20 C, 9 VAC 5-50-410, 9 VAC 5-50-260, and Condition 21 of 4/08/04 Permit)
  4. The polyethylene fiber washer/dryer process thermal oxidizer unit shall be equipped with devices to continuously measure the oxidizer chamber temperature. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the process is operating when a flammable solvent is being utilized.  
(9 VAC 5-80-1180, 9 VAC 5-50-20 C, 9 VAC 5-50-260, and Condition 22 of 4/08/04 Permit)
  5. The polyethylene fiber washer/dryer carbon bed adsorber shall be equipped with devices to continuously measure absorber gas outlet concentration of chlorinated solvents. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the activated carbon adsorbers are operating when a chlorinated solvent is being utilized.  
(9 VAC 5-80-1180, 9 VAC 5-50-20 C, 9 VAC 5-50-260, and Condition 23 of 4/08/04 Permit)
  6. The monitoring device used to continuously measure the concentration of methylene chloride from the activated carbon adsorbers shall be observed by the permittee with a frequency of not less than once per hour to ensure proper performance of the activated carbon adsorbers. Outlet readings of methylene chloride concentrations from the activated carbon adsorbers

shall be conducted every hour. Monitoring of the activated carbon adsorbers shall also include bed inlet readings every 3 hours and readings between the beds every 3 hours. The permittee shall keep a log of the observations and the methylene chloride concentration measurements from the activated carbon adsorbers.

(9 VAC 5-50-50 H and Condition 24 of 4/08/04 Permit)

7. The monitoring device used to continuously measure the oxidizer chamber temperature in conjunction with the polyethylene fiber washer/dryer process shall be observed by the permittee with a frequency of not less than once per hour **or** as recommended by the control manufacturer. The permittee shall keep a log of the observations.

(9 VAC 5-50-50 H and Condition 25 of 4/08/04 Permit)

8. The monitoring device used to continuously measure the concentration of chlorinated solvents from the polyethylene fiber washer/dryer activated carbon adsorbers shall be observed by the permittee with a frequency of not less than once per hour to ensure proper performance of the activated carbon adsorbers. Outlet readings of chlorinated solvent concentrations from the activated carbon adsorbers shall be conducted every hour. Monitoring of the activated carbon adsorbers shall also include bed inlet readings every 3 hours and readings between the beds every 3 hours. The permittee shall keep a log of the observations and the chlorinated solvent concentration measurements from the activated carbon adsorbers.

(9 VAC 5-50-50 H and Condition 26 of 4/08/04 Permit)

### **Recordkeeping**

- A. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Director. These records shall include, but are not limited to:
  1. The monthly throughput of Volatile Organic Compounds, including exempt VOC's, for each line. Individual constituent usages, including hazardous air pollutants, shall be recorded, in addition to total VOC usage.
  2. The operating times of the coating mix operating equipment associated with the PC-30 Coater along with operating records that indicate all required covers were closed and in use during the use of the coating mix operating equipment. Records shall also include indication that all required equipment was vented to the catalytic oxidizer.
  3. The operating times of the coating mix operating equipment associated with the PC-63 Coater along with operating records that indicate all required covers were closed and in use during the use of the coating mix operating equipment. Records shall also include indication that all required equipment was vented to the thermal oxidation unit.

4. The operating times where the PC-27 Coater runs at a rate higher than 31.6 feet per minute.
5. A log of the hourly observations of the two activated carbon adsorbers' monitoring devices and concentration measurements from the two activated carbon adsorbers' exhaust gases.
6. The operating times where the coating mix operating equipment and the PC-30 Coater process water-based resins.
7. The operating times where the coating mix operating equipment and the PC-63 Coater process water-based resins.
8. The inlet and outlet temperature of the catalytic oxidizer bed recorded hourly during all periods when the catalytic oxidizer is in use.
9. The destruction burner temperature of the thermal oxidation unit recorded hourly during all periods when it is in use.
10. The results of all Method 24 analysis performed on any solvent based resin material or its constituents.
11. Material Safety Data Sheets (MSDS) or other vendor information showing VOC content, HAP content, water content, and solids content for each coating and adhesive used.
12. Operation and control device monitoring records for the catalytic oxidizer.
13. Operation and control device monitoring records for the thermal oxidation units.
14. Scheduled and unscheduled maintenance, and operator training.
15. Monthly and annual emissions calculations for methylene chloride from the PC-27 Coater using calculation methods approved by the Piedmont Regional Office to verify compliance with the lb/hr and ton/yr emissions limitations. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
16. A log of hours of operation for the twin screw fiber extruder (XT-2).
17. A log of hours of operation for the polyethylene fiber washer/dryer process. Hours of operation shall be recorded at least monthly.
18. A log of fiber throughput to the polyethylene fiber washer/dryer process. Fiber throughput shall be recorded at least monthly.

19. A log of instances when the thermal oxidizer unit shuts down when flammable solvents are being used in the polyethylene fiber washer/dryer process.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five(5) years.

(9 VAC 5-50-50, Condition 43 of 4/08/04 Permit)

### **Testing**

1. Initial performance tests on the Thermal Oxidation Unit, which controls emissions from the WA-1, shall be conducted for Volatile Organic Compounds (VOCs) from the stack using reference method 24 or 25 (40 CFR 60 Appendix A) to determine compliance with the emission limits and control efficiency requirements contained in Condition 37. The tests shall be performed, reported, and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30, and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests are to be arranged with the DEQ Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. Two copies of the test results shall be submitted to the DEQ Piedmont Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-50-30, 9 VAC 5-80-1200, 9 VAC 5-50-410 and Condition 42)

### **Reporting**

1. The permittee shall maintain records and submit quarterly reports to the Director, Piedmont Regional Office documenting, for the PC-30 Coater, all 3-hour periods (during actual coating operations) during which the average gas temperature immediately before the catalyst bed is more than 28 Celsius degrees below the average gas temperature during the most recent performance test that demonstrated compliance and all 3-hour periods (during actual coating operations) during which the average gas temperature difference across the catalyst bed is less than 80 percent of the average gas temperature difference during the most recent performance test that demonstrated compliance. Copies of the quarterly reports described in this condition shall also be sent to:

Chief, Air Enforcement Branch (3AT20)  
U. S. Environmental Protection Agency  
Region III  
841 Chestnut Street  
Philadelphia, PA 19107

(9 VAC 5-170-160, 9 VAC 5-50-50, 9 VAC 5-50-410 and Condition 44 of 4/08/04 Permit)

2. The permittee shall furnish written notification to the Piedmont Regional Office:

- a. The actual start-up date of the polyethylene fiber washer/dryer process within 15 days after such date.
- b. The anticipated date of performance tests of the polyethylene fiber washer/dryer process postmarked at least 30 days prior to such date.

(9 VAC 5-60-90, 9 VAC 5-60-100 and Condition 46 of 4/08/04 Permit)

### **General Applicable Requirements**

1. **Requirements by Reference** - Except where this permit is more restrictive than the applicable requirement, the NSPS equipment as described in Condition 2 shall be operated in compliance with the requirements of 40 CFR 60, Subpart VVV.  
(9 VAC 5-50-400, 9 VAC 5-50-410, and Condition 41 of 4/8/04 permit)
2. **Test/Monitoring Ports** - The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. Test ports shall be provided at the appropriate locations.  
(9 VAC 5-50-30 F and Condition 45 of 4/8/04 permit)
3. **Permit Invalidity** - This permit to construct the polyethylene fiber washer/dryer process shall become invalid, unless an extension is granted by the DEQ, if:
  - a. A program of continuous construction is not commenced before the latest of the following:
    - i. 18 months from the date of this permit;
    - ii. Nine months from the date that the last permit or other authorization was issued from any other governmental agency;
    - iii. Nine months from the date of the last resolution of any litigation concerning any such permits or authorization; or
  - b. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of a phased construction project.  
(9 VAC 5-80-1210 and Condition 47 of 4/8/04 permit)
4. **Notification for Control Equipment Maintenance** - The permittee shall furnish notification to the Piedmont Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

- a. Identification of the air pollution control equipment to be taken out of service, as well as its location, and registration number;
  - b. The expected length of time that the air pollution control equipment will be out of service;
  - c. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period;
  - d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.  
(9 VAC 5-20-180 B and Condition 49 of 4/8/04 permit)
5. **Facility or Control Equipment Malfunction - Hazardous Air Pollutant Processes** - The processes listed below shall, upon request of the Department, shut down immediately if its emissions increase in any amount because of a bypass, malfunction, shutdown or failure of the process or its associated air pollution control equipment. The processes shall not return to operation until it and the associated air pollution control equipment are able to operate in a proper manner.
- a. PC-27 Coater
  - b. PC-30 Coater
  - c. PC-63 Coater
  - d. Polyethylene fiber washer/dryer
- (9 VAC 5-20-180 F 3 and Condition 51 of 4/8/04 permit)
6. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.  
(9 VAC 5-20-180 I and Condition 52 of 4/8/04 permit)
7. **Maintenance/Operating Procedures** - The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices and process equipment which affect such emissions:
- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
  - b. Maintain an inventory of spare parts.

- c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-50-20 E and Condition 53 of 4/8/04 permit)

#### **NSPS Applicable Requirements**

1. 40 CFR 60 NSPS Subpart VVV - Polymeric Coating of Webbed Substrates - On March 29, 1996, PreCon, Inc. was issued a permit for modification to their 30" coating system. The proposed modifications made the coater subject to Subpart VVV of 40 CFR part 60 because the modifications occurred after April 30, 1987 (40 CFR 60.740(c)). The source proposed to limit the VOC throughput to 460 tons per year which made the source subject to all requirements of VVV based on 40 CFR 60.740(b) which states: **A** If the amount of VOC used is 95 Mg or greater per 12-month period, the facility is subject to all the requirements of this subpart. **@** ' 40 CFR 60.740(a) states **A** The affected facility to which the provisions of this subpart apply is each coating operation and any onsite coating mix preparation equipment used to prepare coatings for the polymeric coating of supporting substrates **@**. The provisions of VVV apply to the coater and the mixing equipment used to mix the polymeric coatings.
2. 40 CFR 60 NSPS Subpart VVV - Polymeric Coating of Webbed Substrates - On May 1, 2003, PreCon, Inc. was issued a permit for modification to install a 63" coating system. The proposed the coater is subject to Subpart VVV of 40 CFR part 60 because the coater was constructed after April 30, 1987 (40 CFR 60.740(c)). The coater is subject to all the requirements of VVV based on 40 CFR 60.740(b) which states: **A** If the amount of VOC used is 95 Mg or greater per 12-month period, the facility is subject to all the requirements of this subpart. **@** ' 40 CFR 60.740(a) states **A** The affected facility to which the provisions of this subpart apply is each coating operation and any onsite coating mix preparation equipment used to prepare coatings for the polymeric coating of supporting substrates **@**. The provisions of VVV apply to the coater and the mixing equipment used to mix the polymeric coatings.
3. **?** 40 CFR 60.742(b) provides 2 separate standards for new or modified affected facilities. The NSR permit included conditions consistent with 40 CFR 60.742(b)(1) which states: Reduce VOC emissions to the atmosphere from the coating operation by at least 90 percent ("emission reduction" standard). This is the appropriate standard because the permit action was a modification to an existing coating operation. Condition 11 and Condition 14 of the April 8, 2004 permit is the NSR condition that delineates this requirement. 40 CFR 60.742(c)(1) which states: for an affected facility that has concurrent construction of a control



device and uses at least 130 Mg of VOC per 12-month period, the owner or operator shall install, operate, and maintain a cover on each piece of affected coating mix preparation equipment and vent VOC emissions from the covered mix equipment to a 95 percent efficient control device while preparation of the coating is taking place within the vessel. Both PC-30 and PC-63 are applicable to 40 CFR 60.742 (c)(1). Condition 11 and Condition 14 of the April 8, 2004 permit impose this requirement.

4. The NSPS testing requirements for the PC-30 coater and PC-63 coater is defined in 40 CFR 60.743(a)(1) (i) as follows: "Construct the vapor capture system and control device so that all gaseous volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in ' 60.745(b) through (g)". The source tested the catalytic oxidizer for PC-30 coater on October 10, 1996 and demonstrated compliance with the 95% reduction provided for in the NSPS. The source tested the thermal oxidizer for PC-63 coater on November 25, 2003 and demonstrated compliance with the 95% reduction provided for in the NSPS. A copy of the stack test for the PC-63 coater is attached. A copy of the stack test for the PC-30 was included in the initial permitting action.
5. The monitoring requirements for the PC-30 coater are defined in 40 CFR 60.744(f) as follows: "Each owner or operator of an affected facility controlled by a catalytic incinerator and demonstrating compliance by the test methods described in ' 60.743 (a)(1), (2), (b), or (c) (which include control device efficiency determinations) shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a monitoring device that continuously indicates and records the gas temperature both upstream and downstream of the catalyst bed. The monitoring device shall have an accuracy within  $\pm 1$  percent of the temperature being measured in Celsius degrees." Condition 20 of the April 8, 2004 permit imposes this requirement.  
The monitoring requirements for the PC-63 coater are defined in 40 CFR 60.744(e) as follows: "Each owner or operator of an affected facility controlled by a thermal incinerator and demonstrating compliance by the test methods described in ' 60.743 (a)(1), (2), (b), or (c) (which include control device efficiency determinations) shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a monitoring device that continuously indicates and records the gas temperature both upstream and downstream of the catalyst bed. The monitoring device shall have an accuracy within  $\pm 1$  percent of the temperature being measured in Celsius degrees." Condition 21 of the April 8, 2004 permit imposes this requirement.
6. Consistent with 40 CFR 60.747(d) and (f) the source submits quarterly reports on the effectiveness of the temperature monitoring scheme.

### **Streamlined Requirements**

1. Condition 16 of the August 5, 1996 permit is not being included as an applicable requirement in the Title V permit because the condition, which voids the permit if construction is not commenced within 18 months, is obsolete and environmentally insignificant. These determinations are consistent with the conditions set down in the White Paper dated July 10, 1995 because the construction outlined in this permit has already been accomplished.

2. Condition 48 of the April 8, 2004 permit and Condition 12 of the August 5, 1996 permit are not being included as an applicable requirement in the Title V permit because it is out-dated. The Part 70 regulations define specific inspection and entry requirements consistent with the issuance of a TITLE V permit. These requirements are described in General condition Q of the Title V permit and are at least as stringent as the NSR requirements. Inclusion of these conditions would be redundant and the requirement has been overtaken by the Title V (Part 70) regulations.
3. Condition 50 of the April 8, 2004 permit and Condition 13 of the August 5, 1996 permit are not being included as applicable requirements in the Title V permit because they are included in the general condition B. and is included as part of the malfunction reporting requirements for the overall permit. Including these conditions as separate enforceable conditions on the permitted equipment in addition to the entire listing of equipment covered by the TITLE V permit creates a situation where conditions are both redundant and confusing.
4. Condition 54 of the April 8, 2004 permit and Condition 11 from the August 5, 1996 permit are being left out of the Title V permit because the conditions define the causes for modification or revocation of an NSR permit which can be considered extraneous to the Title V permit. The assumption underlying this determination is that if an NSR permit is revoked or modified through unsolicited action by DEQ, the Title V permit will be changed in a separate and independent action from the NSR change. The Title V permit will change to reflect the changes in applicable requirements brought about by the NSR change.
5. Condition 55 of the April 8, 2004 permit and Condition 18 of the August 5, 1996 permit are not being included as an applicable requirements in the Title V permit because they are redundant. General applicable requirement T. describes the requirements for transfer of ownership relative to the Title V permit. The transfer of ownership requirement for the NSR permit are therefore inappropriate for inclusion in the Title V permit.
6. Condition 57 of the April 8, 2004 permit is not being included as an applicable requirement in the Title V permit because it is redundant. General applicable requirement S. describes the requirements for permit availability. The permit copy requirement for the NSR permit is therefore inappropriate for the inclusion in the Title V permit.
7. Condition 56 of the April 8, 2004 permit is not being included as an applicable requirement in the Title V permit because it is included in the general condition 3. Including the registration update condition for the NSR permit would be redundant.

## **GENERAL CONDITIONS**

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

## **Comments on General Conditions**

### **B. Permit Expiration**

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application has been delegated to the Regions as allowed by ? ? §2.1-20.01:2 and ? §10.1-1185 of the *Code of Virginia*, and the “Department of Environmental Quality Agency Policy Statement NO. 3-2001”.

This general condition cite(s) the Article(s) that follow(s):

Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:

9 VAC 5-80-80. Application

9 VAC 5-80-140. Permit Shield

9 VAC 5-80-150. Action on Permit Applications

### **F. Failure/Malfunction Reporting**

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

This general condition cites the sections that follow:

9 VAC 5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows:  
40 CFR 60.13 (h). Monitoring Requirements.

### **J. Permit Modification**

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits.

9 VAC 5-80-260. Enforcement.

9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9 VAC 5-80-1790. Applicability, Permits For Major Stationary Sources and Modifications

Located in Prevention of Significant Deterioration Areas

9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

**U. Malfunction as an Affirmative Defense**

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

9 VAC 5-80-110. Permit Content

**Y. Asbestos Requirements-** Not applicable

**STATE ONLY APPLICABLE REQUIREMENTS**

1. The annual throughput of methylene chloride on PC-27 Coater shall not exceed 188 tons per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-1180 and Condition 27 of 4/8/04 Permit)
2. The annual throughput of methyl ethyl ketone on PC-63 Coater shall not exceed 390 tons per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-1180 and Condition 29 of 4/8/04 Permit)
3. Emissions from the operation of the facility shall not exceed the limits specified below:

**PC-27 Coater:**

Methylene Chloride	60.0 lbs/hr	188.0 tons/yr
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**PC-30 Coater:**

Methyl Ethyl Ketone	5.3 lbs/hr	23.0 tons/yr
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**PC-63 Coater:**

Methyl Ethyl Ketone	1.8 lbs/hr	7.9 tons/yr
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(9 VAC 5-50-260 and Condition 37 of 4/8/04 Permit)

**FUTURE APPLICABLE REQUIREMENTS**

1. 40 CFR 63 MACT Subpart OOOO- National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles- Coaters MTO-30, PC-27, PC-30, and PC-63 are subject to Subpart OOOO of 40 CFR part 63 they fall under 40 CFR 63.4281 (a)(1).

2. According to 40 CFR 63.4283(b) the date the source must comply with this subpart is 3 years after May 29, 2003 or May 30, 2006.

#### INAPPLICABLE REQUIREMENTS

1. Coaters PC-27 and MTO- 30 are not Subpart VVV applicable coating equipment but the NSPS monitoring and recordkeeping requirements were used to help establish periodic monitoring for the non-NSPS coaters. The fuel burning equipment at this facility are natural gas fired combustion units with rated capacities below 10 Million BTU/hr. This size makes these units insignificant for purposes of Title V as well as below the applicability thresholds for Rule 4-4 and Rule 4-8. These coaters apply coating material to polymeric fiber therefore rule 4-31, the coating of paper and fabric material, has not been applied to this source as BACT nor as RACT because the City of Petersburg is outside the VOC emissions control area.
2. Coaters MTO-30, PC-27, PC-30, and PC-63 are not subject Compliance Assurance Monitoring (CAM) 40 CFR 64 because they fall under the exemption definition that is found in 40 CFR 64.2(b)(1). All four units are applicable to 40 CFR 63 Subpart OOOO, which was signed after after November 15, 1990 therefore making these units exempt from CAM. Both the polyolefin fiber process line (XT-2) and the washer/dryer line (WA-1) are not subject to CAM because they fall under the exemption definition that is found in 40 CFR 64.2(a)(3). The polyolefin fiber process line (XT-2) is exempt under the above definition because the potential to emit particulate matter is 33.5 tons/yr, which falls below major source thresholds. The washer/dryer line (WA-1) is exempt under the above definition because the potential to emit volatile organic compounds is 42.9 tons/yr, which falls below major source thresholds.

**COMPLIANCE PLAN-** Not applicable

#### INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation (9 VAC_)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
	Ballistics/R&D/ QC Lab Hood	5-80-20-A.18	Negligible	NA
	Edge Trimming / Cross Ply finishing equipment	5-80-20 A.54.	Negligible	NA
Plasma	Plasma Units (3)	5-80-720 B.	CO, NOx	550 watts

<b>Emission Unit No.</b>	<b>Emission Unit Description</b>	<b>Citation (9 VAC_)</b>	<b>Pollutant Emitted (5-80-720 B.)</b>	<b>Rated Capacity (5-80-720 C.)</b>
Units				
30PC	30 inch Coater-Production Hood	5-80-720 B.	Methylene Chloride	6.75 ft.2 opening
	Safety-Kleen Parts Washer	5-80-720 B.	VOC	Cold Cleaner
MTO-30 DO	MTO-30 Coater Drying Oven	5-80-720 C.	NO <sub>x</sub> , VOC, CO, PM <sub>10</sub> , SO <sub>2</sub> , Benzene	0.80 MMBTU/hr
GB-01	Boiler, Perry Building, 2nd. Floor	5-80-720 C.	NO <sub>x</sub> , VOC, CO, PM <sub>10</sub> , SO <sub>2</sub> , Benzene	2.7 MMBTU/hr
GB-02	Boiler, Perry Building, 2nd. Floor	5-80-720 C.	NO <sub>x</sub> , VOC, CO, PM <sub>10</sub> , SO <sub>2</sub> , Benzene	2.7 MMBTU/hr
GB-03	Boiler, Cameron Bldg.	5-80-720 C.	NO <sub>x</sub> , VOC, CO, PM <sub>10</sub> , SO <sub>2</sub> , Benzene	1.5 MMBTU/hr.
GB-04	Boiler, Cameron Bldg.	5-80-720 C.	NO <sub>x</sub> , VOC, CO, PM <sub>10</sub> , SO <sub>2</sub> , Benzene	1.5 MMBTU/hr.
30PC-CATOX	Coating System PC-30, Catalytic Oxidizer Burner	5-80-720 C.	NO <sub>x</sub> , VOC, CO, Particulate PM <sub>10</sub> , SO <sub>2</sub> , Benzene	1.95 MMBTU/hr.
XT-1	Fiber Extruder	5-80-720 B.	PM	10 lbs/hr per end of fiber
D-X	Experimental gel fiber washing unit	5-80-720 B.	VOC, HCFC-141(b), CRC-113	3.75 batches/day
WA-X	Experimental gel fiber dryer unit	5-80-720 B.	VOC, HCFC-141(b), CRC-113	6 lbs fiber/day
LAB	Quality Control Lab	5-80-720 B.	Dihydroperflouropentane	36 tests/day
DW	Experimental drum fiber winder	5-80-720 B.	VOC	25 ft fiber/min
S-X	Experimental Spinning Unit	5-80-720 B.	VOC, PM	2.83 lb/hr

<sup>1</sup>The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

### **CONFIDENTIAL INFORMATION**

The source has requested confidentiality for information contained in this application. Consistent with existing DEQ policy, the following information will be considered confidential: process throughputs and production rates of production equipment.

### **PUBLIC PARTICIPATION**

The proposed permit will be place on public notice in the Richmond Times Dispatch from April 19, 2004 to May 18, 2004.